

# USER GUIDANCE: ENVIROGARD MULTIMISTER

## READ BEFORE USING THE APPLIANCE

**GENERAL:** The Multimister is a 1100L towable water bowser equipped with a:

- Mast top misting spray (30m range) for dust control
- 30m Jetwash Reel + HP lance for cleaning
- Spraybar for roadway damping
- Auxiliary port for optional misting line or fog cannon.



An electric-start Yanmar diesel engine mounted on the drawbar delivers from 8 - 20 litres water / min at 200 bar.

The unit can be filled and towed to an area where dust suppression or jetwashing is required. For constant operation mains water can be coupled to the tank inlet. As standard the highway approved trailer is equipped with a lockable 50mm ball coupling (a ring coupling is available on request), over run brakes, and road lights.

**PRE-USE CHECKS / FILLING:** Visually inspect the trailer, water tank, water strainer, engine, pump, hoses, jetwash lance and mast before use (see schematic overleaf); if the equipment is damaged do not use it – contact the supplying hire depot.

Ensure the trailer is level and the hand brake is applied; either connect a clean water supply to the tank “Inlet” coupling (a float-valve will stop the tank over-filling) or fill through the tank lid. The engine will not run if there is insufficient water in the tank.

Once filling is complete ensure the lid is securely closed; the trailer may be towed to another location if required. Level the trailer within 15° using the screw jack at the front of the trailer and the stabilizer leg. Ensure the handbrake is applied; if necessary use wheel chocks as well.

## OPERATING INSTRUCTIONS (refer to schematic overleaf):

1. Daily: check engine oil, fill fuel tank with clean diesel and open the fuel valve.
2. Weekly: check pump & gearbox lubricant level - oil should reach the mark on the sight glass. Clean water-strainer located nearside of machinery deck.
3. Before engine start: at valve manifold close all valves to prevent water discharge on start-up.
4. Open pump bleed-valve to facilitate engine start & HP pump prime.
5. Move the engine speed control lever to “RUN”. Insert the key and turn clockwise to “Start” – release key when the engine fires. Once water discharges freely from the bleed-valve you can close it. Let the engine run for 1-2 minutes to warm up then increase the speed.

Caution: the engine won't start if the water level in the bowser is too low.

The engine will stop if the water level becomes too low; this is to protect the HP Pump from damage. When the engine stops an audible alarm sounds - turn key to OFF to cancel alarm.

# **Envirogard Hires**



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6. Once the engine is running you can direct the output at the valve manifold below the mast. Check no one is in the vicinity of the output spray before opening any valve.
7. **Jetwash**: release the jetwash lance from its stowed position on the frame. Press the trigger on the gun and bleed air out of the hose until air-free water is issuing. Hold the lance in both hands when squeezing the trigger because it will “kick back”. Use only the hose, lance and nozzles supplied with the machine and do not attempt to connect or disconnect hose, lance or nozzle while pressurised.

8. **Mast Misting Spray**: Do not operate aerial spray with the mast horizontal – first release the mast from its transit position (shown right), tilt mast up to the desired vertical position, then engage locking pin (image far right) in the mast pivot.



Turn the Mast Valve “ON” and adjust engine speed to alter the output spray; for best economy use the minimum engine speed necessary.

9. **Roadway Spray**: before using the road spraybar ensure the mast is down, securely stowed & locked in the horizontal transit position (shown above) & the Jetwash reel + lance are also securely stowed.

Turn Spraybar valve “ON” - water will spray onto the roadway. Tow bowser with a suitably equipped vehicle with matched tow-coupling.



10. **Auxiliary Port**: follow supplementary instructions for use of optional misting lines / cannons.
11. **TO STOP ENGINE**: reduce engine speed to idle for 3 to 4 minutes, turn the starter key to OFF and close the fuel valve.

**!! IN EMERGENCY: TURN IGNITION KEY TO “O” OR MOVE THROTTLE TO “STOP” !!**

Always dissipate residual pressure after use - OPEN the Drain valve followed by the Hose Reel, Mast and Spraybar Array valves. If the equipment will be unattended LOCK TOW COUPLING and remove the key to prevent unauthorised use.

Before relocating the trailer always ensure the HP hose-end is engaged to the coupler on the trailer chassis, the hose reel-lock is engaged, the jetwash gun+lance is retained in its holder, and the mast is stowed in the horizontal transit position with the locking pins secure at the head and foot of the mast. Before returning to the hire company empty the tank of ALL water.

## TECHNICAL:

<b>DIMENSIONS:</b>	Trailer Length 3475mm Width 1550mm Height 2000mm Max Authorised Mass: 1500 kg Highway trailer with 50mm ball coupling, over-run brakes, and highway DOT lighting.
<b>ENGINE:</b>	Yanmar L100V 6.8kW Diesel, electric + recoil start; fuel tank 5 litres; engine oil SAE10W30.
<b>PUMP:</b>	Max Flow 20 litres/min @ 200 bar / 2900 psi, pump oil SAE10W30, gearbox oil EPA85/140 Output: to Jetwash hose on 30m hose reel <u>or</u> Dustquip aerial mister (30m throw in still air) <u>or</u> Roadway Spraybar <u>or</u> Auxiliary feed to optional mist line or mist cannon.
<b>HAV's:</b>	Jetwash Lance: Vibration Emission 1.64 ms <sup>2</sup> (Equivalent to 5 HSE HAV Points / Hour).



Noise



High Pressure Water



Wear Hearing & Eye Protection



## COMMON TROUBLE SHOOTING:

Loss of Pressure: Engine speed too low – adjust speed. Clean water strainer (see right).  
 Engine Shuts Down: Check fuel & engine oil level. Low water shut down - refill water tank.

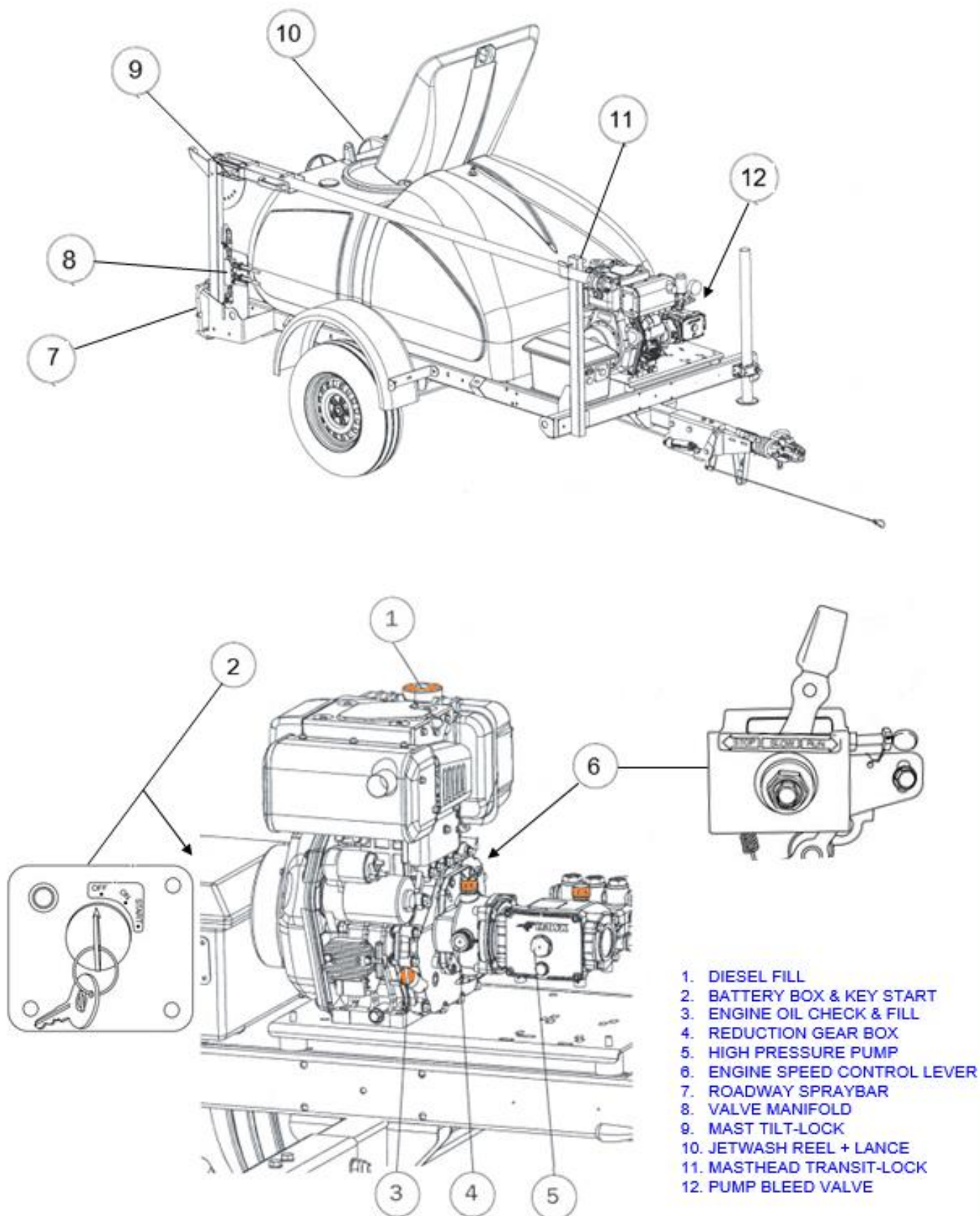
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## **ENVIROGARD MULTI-MISTER & JETWASH BOWSER : QUICK-START INSTRUCTIONS**



**TO DISCOURAGE THEFT OF THIS EQUIPMENT KEEP TOW-HITCH COUPLING LOCKED.**

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## CAUTIONS / WARNINGS

**!! IN EMERGENCY: TURN IGNITION KEY TO "O" AND MOVE THROTTLE TO "STOP" !!**

**OPEN DRAIN VALVE & JETWASH VALVE TO DISSIPATE RESIDUAL PRESSURE.**

**WHEN NOT USING MULTIMISTER - IF LEAVING IT UNATTENDED STOP THE ENGINE AND REMOVE THE IGNITION KEY.**

**TO DISCOURAGE THEFT ENSURE TOW-HITCH COUPLING IS LOCKED !**

This equipment is mobile and can be used and located in many different environments. Users are therefore reminded of the need to ensure that all tasks and locations are risk assessed before activity commences to ensure that all significant hazards are identified with appropriate precautions put in place.

The Multimister is not for use in explosive or flammable atmospheres. The engine will generate exhaust fumes; the machine should be located in well-ventilated areas where exhaust fumes can safely disperse.

This equipment is designed for high pressure jetwash cleaning (200 bar) and for generating water mist for dust suppression. This equipment ejects water at high velocity and water jets are dangerous if misused. The jet/spray must not be directed at people, animals, the machine itself, non-waterproof, fragile or electrical equipment, nor power cables. Do not attempt to couple or un-couple tools, hoses or nozzles while the equipment is pressurised.

The equipment should be operated by an able bodied adult competent in the use of pressure washers up to 200 bar / 2900psi. This equipment must not be used by minors or anybody under the influence of drugs or alcohol. When jet-washing - the work area should be demarcated and you should exclude other people from the high-pressure jetwash zone.

Personal protective clothing must be worn. When operating the Multimister use an impact resistant visor or goggles and ear defenders as a minimum. Water jets can generate high noise levels and produce a high impact force, so when using the jetwash protective (waterproof) clothing, gloves and boots should be worn in addition. Some jetwash applications may generate an aerosol containing pathogens e.g. guano removal, the cleaning of animal by products etc; the user must assess whether supplementary RPE needs to be used in this situation.

The engine and pump generate noise, the level varies according to engine speed. Typical noise levels in-service are 84 dB(A) @ 7 metres. The jetwash lance is supplied with a 30 metre hose and the mast mister has a 30m range so where possible locate the machine away from persons who might be affected by noise. Personnel obliged to work in close proximity to the machine must use hearing protection. If the machine is operating in a wholly or partially enclosed space from which noise cannot readily dissipate Users should consider conducting a noise survey to identify if extended mandatory hearing protection zones are required.

This equipment contains water - do not allow it to freeze !!! If the pump has frozen DO NOT attempt to start the engine; allow to thaw and inspect for damage before use. If possible store indoors during frost; if this is not possible you must introduce anti-freeze (25% solution) through the quick-coupling (located below the machinery platform next to the water strainer); operate the engine at low speed to draw it through the pump, hoses, lance and spray nozzles: this will protect down to approx - 5°C. Before next use flush with clean water and collect the antifreeze solution at the drain valve below the mast for re-use (do not dispose of antifreeze to the environment).

Legionella bacteria can grow at temperatures between 20°C and 45°C, particularly in dirty or contaminated water. For this reason always fill the bowser with cold, clean, potable (drinking quality) water only. If you will not be using the equipment for a few days drain it of water; before next use purge the equipment with clean water whilst operating the engine at low speed to minimise production of spray.

If ambient conditions are such that water temperature is sustained above 20°C consider treating the tank and flushing the equipment periodically with a sanitising agent such as Milton. The user's attention is drawn to HSE's guidance on Legionella ACoP L8; depending on your work environment and prevailing temperature it may be necessary for you to include the equipment within your Legionella management programme.

Fuels & Lubricants: diesel fuel is flammable – take care not to cause a fire - top up fuel and check lubricant levels with the machine shut down and in a cold state. If lubricant is required contact the supplying hire depot. Engine oil must be changed every 200 hours, pump oil + gearbox oil every 500 hours; an hour meter is fitted to facilitate this.



Noise



High Pressure Water



Wear Hearing & Eye Protection